



# **Air Quality Permitting Statement of Basis**

**March 17, 2005**

**Permit to Construct No. P-040307  
and  
Tier I Operating Permit No. T1-040308**

**Nu-West Industries, Agrium Conda Phosphate Operations  
Soda Springs**

**Facility ID No. 029-00003**

**Prepared by:**

**Ken Hanna, Permit Writer  
AIR QUALITY DIVISION**

**FINAL PTC  
and  
FINAL TIER I**

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## Acronyms, Units, and Chemical Nomenclatures

AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HAPs	Hazardous Air Pollutants
H <sub>2</sub> SO <sub>4</sub>	sulfuric acid
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
Nu-West	New West Industries, Agrium Conda Phosphate Operations
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SO <sub>2</sub>	sulfur dioxide
SO <sub>3</sub>	sulfur trioxide
SO <sub>x</sub>	sulfur oxides
SPO	super phosphoric acid
T/yr	tons per year
µg/m <sup>3</sup>	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

## **Tier I Public Comment / Affected States / EPA Review Summary**

A 30-day public comment period for the New West Industries, Agrium Conda Phosphate Operations draft Tier I operating permit was held from October 15, 2004 to November 15, 2004 in accordance with IDAPA 58.01.01.364, *Rules for the Control of Air Pollution in Idaho*. No comments were received.

IDAPA 58.01.01.008.01 defines *affected states* as: "All states: whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho; or that are within 50 miles of the Tier I source."

A review of the site location information included in the permit application indicates that the facility is located within 50 miles of the states of Utah and Wyoming, and the Shoshone-Bannock Tribes. Therefore, the states of Utah and Wyoming, and the Shoshone-Bannock Tribes were also provided an opportunity to comment on the draft Tier I operating permit.

A 45-day review for the proposed Tier I operating permit was held from January 27, 2005 to March 14, 2005 in accordance with IDAPA 58.01.01.209.05.b and 366, *Rules for the Control of Air Pollution in Idaho*. No comments were received.

## **1. PURPOSE**

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200 and 300, Rules for the Control of Air Pollution in Idaho, for issuing permits to construct and Tier I operating permits.

## **2. FACILITY DESCRIPTION**

The Nu-West Industries, Agrium Conda Phosphate Operations, facility (Nu-West) produces multiple fertilizer based products. The facility's primary product is in a liquid fertilizer product called Super Phosphoric Acid (SPA). SPA is produced by concentrating phosphoric acid to a level of 68-72% P<sub>2</sub>O<sub>5</sub>. SPA accounts for approximately 50% of the facility's total production volume. SPA is sold to customers where it is then upgraded, mixed or blended with other nutrients, pesticides and or herbicides before it is applied. Other products produced at the facility include Merchant Grade Acid, Dilute Phosphoric Acid, Purified Phosphoric Acid and Dry Granular Products.

Sulfuric acid is used in the process and is either manufactured at the Conda plant or purchased from third party sources. Approximately 50% of the sulfuric acid utilized at the Agrium Conda Phosphate Plant is currently manufactured by Agrium at the East Sulfuric Acid Plant using a double contact absorption process that burns elemental sulfur.

## **3. FACILITY / AREA CLASSIFICATION**

Nu-West Industries, Agrium Conda Phosphate Operations is defined as a major facility in accordance with IDAPA 58.01.01.008.10 Rules for the Control of Air Pollution in Idaho (Rules) because the facility has a PTE for PM<sub>10</sub>, SO<sub>2</sub>, CO and NO<sub>x</sub> of over 100 T/yr for each pollutant. Nu-West is defined as a designated facility in accordance with IDAPA 58.01.01.006.27 (sulfuric acid plant). The AIRS classification is "A" because the facility has the PTE of over 100 T/yr of a regulated air pollutant. The SIC code for this facility is 2874 which is defined as a phosphate fertilizer production plant.

The Nu-West facility is located within AQCR 61 and Universal Transverse Mercator Zone 12. The facility is located in Caribou County, which is designated as attainment or unclassifiable for all criteria air pollutants (i.e. SO<sub>2</sub>, NO<sub>x</sub>, CO, PM<sub>10</sub>, and lead).

No changes to the AIRS database are needed as a result of these PTC and Tier I permit modifications.

## **4. APPLICATION SCOPE**

Nu-West has submitted applications to concurrently modify PTC No. 020-00003, issued April 27, 2000, and Tier I operating permit No. T1-030319, issued September 23, 2003, as follows:

- Improve the "sufficiency" of monitoring for applicable requirements in the Tier I permit by removing redundant monitoring and relying instead on the continuous emission monitoring system which was installed under 40 CFR Part 60 Subpart H.

### **4.1 Application Chronology**

March 26, 2004	DEQ received a Tier I modification request for the East Sulfuric Acid Plant
April 6, 2004	DEQ received PTC and Tier I modification requests for the plant

May 7, 2004	DEQ received additional application materials for the PTC and Tier I permits, including a request to issue draft permits prior to issuing the public notice
May 14, 2004	DEQ declared the applications to be complete
July 7, 2004	DEQ issued draft PTC and Tier I permits to Agrium for review
August 5, 2004	DEQ received a letter from Agrium regarding pending comments on the permits
August 16, 2004	DEQ received a letter from Agrium indicating there are no comments on the draft permits and to proceed with public comment
November 15, 2004	The 30-day public comment period ended
December 10, 2004	The final PTC was issued
March 14, 2005	The EPA 45-day proposed permit review period ended

## **5. PERMIT ANALYSIS**

This section of the Statement of Basis describes the regulatory requirements for this PTC action.

### **5.1 Equipment Listing**

No equipment changes are associated with this modification request.

### **5.2 Emissions Inventory**

No emission rate changes are associated with this modification request.

### **5.3 Modeling**

Modeling is not necessary because emission rates would not increase as a result of the requested modification.

### **5.4 Regulatory Review**

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

#### **IDAPA 58.01.01.201..... Permit to Construct Required**

Nu-West requested changes to the PTC for purposes of improving the monitoring provisions for the East Sulfuric Acid Plant. The revised PTC was issued on December 10, 2004.

#### **IDAPA 58.01.01.322.06..... Tier I Permit Monitoring**

The facility cannot violate existing Tier I conditions, therefore a Tier I amendment was requested. An amendment of the existing permit is required to remove restrictions on hours of operation. Before an applicable requirement can be changed in the existing Tier I operating permit, it must first be changed in the PTC which contains it. The intent of this permit modification is to remove redundant operating and monitoring restrictions. The existing PTC contains hours of operation restrictions, throughput restrictions and continuous emission monitoring. The hours of operation restriction is redundant and has been removed from the permits. CEMS data and daily production limitations are sufficient.

#### **IDAPA 58.01.01.322.07..... Tier I Permit Recordkeeping**

The revised monitoring provisions contain "sufficient recordkeeping to assure compliance with all of the terms and conditions of the Tier I operating permit" as required under this rule.

#### IDAPA 58.01.01.382..... Tier I Significant Permit Modification

The requested changes are a significant modification to the Tier I permit under IDAPA 58.01.01.382.01.a since implementation of the changes would "violate an existing Tier I permit condition derived from an applicable requirement." However, the changes are not considered to be significant Under IDAPA 58.01.01.382.01.b. This is because future monitoring using the CEMS results in more frequent and more refined monitoring than monitoring conducted under the existing permit (i.e., monitoring of the hours of operation and production).

#### IDAPA 58.01.01.701..... PM – Process Weight Rate Limitations

Permit Condition 4.11 of the September 23, 2003 Tier I operating permit required Nu-West to perform a PM performance test for purposes of demonstrating compliance with IDAPA 58.01.01.701. A test was performed in March 2003 and approved by DEQ in July 2003. The measured emission rate was 2.61 lb/hr. Based on the maximum daily acid production rate of 1550 tons per day, the maximum allowable emission rate is 21 lb/hr  $[(1.10)[(1550 \text{ T/day})(\text{day}/24 \text{ hr})(2000 \text{ lb/T})]^{0.25} = 21 \text{ lb/hr}]$ . Based on the nature of this source and the margin of compliance demonstrated by the test, a one time test is sufficient to demonstrate compliance with this requirement. Therefore, permit condition 4.11 was removed from the Tier I permit.

## 5.5 Fee Review

All required PTC fees have been paid in full. DEQ received a \$1,000 PTC application fee (IDAPA 58.01.01.224) and a \$250 PTC processing fee (IDAPA 58.01.01.225) from Nu-West on May 7, 2004. A PTC processing fee of \$250 was required because no engineering analysis was required for the PTC modification, and there is no change in emissions associated with this modification (see Table 5.1).

Nu-West is a major facility as defined in IDAPA 58.01.01.008.10. Therefore, Tier I registration fees are applicable in accordance with IDAPA 58.01.01.387. As of February 17, 2005, the current balance due for Tier I fees is \$0.00.

Table 5.1 PTC PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO <sub>x</sub>	0.0	0	0.0
SO <sub>2</sub>	0.0	0	0.0
CO	0.0	0	0.0
PM <sub>10</sub>	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 250.00		

## 6. PERMIT CONDITIONS

This section summarizes all changes/revisions made to the PTC issued on April 27, 2000 and the Tier I operating permit issued on September 23, 2003. Note that the only changes made to the Tier I permit were in Section 4, which addresses the East Sulfuric Acid Plant, and General Provision 21. The permit condition numbers listed below refer to the revised/new PTC and Tier I permits unless noted otherwise.

## **Front Page – New Permit Number**

The PTC permit number has been changed from 029-00003 to P-040307. The Tier I permit number has been changed from T1-030319 to T1-040308. The AIRS facility ID number is 029-00003.

## **Tier I Permit Issuance and Expiration Dates**

A new Tier I permit issuance date will be given to reflect the new modified permit. The original Tier I permit expiration date of October 28, 2006 remains unchanged.

## **PTC Condition 1.1.2 and Tier I Condition 4.1.2**

The averaging time for the annual emission rate limit was changed from tons/yr to tons per consecutive 12-month period, consistent with DEQ and EPA practices.

## **Condition 2.2 in the April 27, 2000 PTC and Condition 4.6 in the September 23, 2003 Tier I**

The hours of operation restriction is redundant and it has been removed from the permits.

## **PTC Condition 3.1 and Tier I Condition 4.6**

The permit conditions were changed to clarify that the emission test requirement is based on a 13-month cycle. Also, the requirement for the first performance test was removed since this has been complied with.

## **PTC Condition 3.1.5.2 and Tier I Condition 4.6.4.2**

The requirement to cross-check the sulfur dioxide monitor with the initial performance test was removed since the quality assurance requirements being met under 40 CFR Part 60 are sufficient.

## **PTC Condition 3.3 and Tier I Condition 4.8**

The requirement to monitor the hours of operation of the East Sulfuric Acid Plant was removed. The production rate monitoring frequency and units of measure were clarified.

## **PTC Condition 3.4 and Tier I Condition 4.9**

To improve the sufficiency of monitoring, a new requirement was added to the PTC and the Tier I to use the CEMS to monitor emissions from the East Sulfuric Acid Plant. Refer to IDAPA 58.01.01.322.06 in the regulatory analysis section for details.

## **PTC General Provisions**

The most recent version of the PTC General Provisions was used in the modified PTC.

## **Condition 4.11 in the September 23, 2003 Tier I**

The PM performance testing requirements for demonstrating compliance with the process weight rate rule have been completed and were removed. Refer to IDAPA 58.01.01.701 in the regulatory analysis section for details.

**General Provision F in the April 27, 2000 PTC and Condition 4.17 in the September 23, 2003 Tier I**

PTC General Provision F in the April 27, 2000 PTC, which limited operations after a source test to 120% of the operating rate during the test, was removed from both permits.

**Tier I General Provision 21**

General Provision 21, which addresses Annual Compliance Certification requirements, was changed to be consistent with the recent IDAPA rule change, (2/5/04)T.

**7. PUBLIC COMMENT**

A 30-day public comment period on the proposed PTC and the draft Tier I operating permit modification was held from October 15, 2004 to November 15, 2004 in accordance with IDAPA 58.01.01.209.05.b.iii and 58.01.01.364. A notice was published in the Caribou County Sun and copies of the proposed action were placed in the local area in accordance with this rule. No comments were received. The permit documents were provided to the Pocatello Regional Office on November 16, 2004 and no changes were requested.

**8. RECOMMENDATION**

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend that final Tier I No. T1-040308 for the East Sulfuric Acid Plant be issued to Agrium. A public comment period was held, no comments were received, the project does not involve PSD requirements.

KH/sd                      Permit No. P-040307 & T1-040308

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